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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/844,909

04/27/2001

Stan Kosciuk

Kosciuk-1

1487

7590

05/21/2004

Brian K. Dinicola
34 Avenue E
Monroe Twp, NJ 08831

EXAMINER

GRAHAM, ANDREW R

ART UNIT

PAPER NUMBER

2644

2

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/844,909

Applicant(s)

KOSCIUK, STAN

Examiner

Andrew Graham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04/27/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

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DETAILED ACTION

Drawings

1. The drawings are objected to because they fail to meet the following requirements of CFR § 1.84.

§ 1.84 (g) Margins:

Each sheet must include a top margin of at least 2.5 cm. (1 inch), a left side margin of at least 2.5 cm. (1 inch), a right side margin of at least 1.5 cm. (5/8 inch), and a bottom margin of at least 1.0 cm. (3/8 inch). These spacings are not present in the top and right margins of Figure 3A.

- § 1.84 (1) Character of lines, numbers, and letters:

Every line, number, and letter must be durable, clean, black (except for color drawings), sufficiently dense and dark, and uniformly thick and well-defined. The weight of all lines and letters must be heavy enough to permit adequate reproduction. This applies to Figures 1, 2, and 3A-3D.

- § 1.84 (p) (3) Numbers, letters, and reference characters:

Numbers, letters, and reference characters must measure at least .32 cm. (1/8 inch) in height. Some of the labels, such as "40A", "40B", "40C", and "40D" in Figure 3A and "Aux" of Figure 1 do not meet this height requirement.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

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Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 6, 7, 11, and 12** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 6 specifies two ratios "between from 1000:1 to 5000:1". The specification does not disclose these ratios specifically, and the numbers involved with such a ratio, such as the given impedances between connectors, do not clearly support such a range (page 4, lines 7-11).

Claim 7 specifies "each conductor of said elongated multiple conductor cable has an impedance of between 4 to 16 ohms". Such a limitation is not expressed or clearly supported in the submitted specification.

Claim 11 specifies, "at least 25 feet long". Such a limitation is not expressed or clearly supported in the submitted specification.

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Claim 12 specifies, "a transmission line impedance of 8 ohms". Such a limitation is not expressed or clearly supported in the submitted specification.

For each of these rejections, appropriate corrections are required. If support for the cited limitations does exist in the specification, the applicant is respectfully requested to provide page and line number of the location of such support.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art in view of O'Sullivan (USPN 4972457), Palmieri et al (USPN 5481478), Wu (USPN 6213815), and Adachi (JP 10-144427). Hereafter, "Palmieri et al" will simply be referred to as "Palmieri".

The applicant's admitted prior art gives basic information about a computer used for outputting audio signals and a home stereo system with included output speakers. According to the applicant, the conventional PC includes one or more low impedance (8 ohm) output ports for driving headphones and other, relatively small speakers

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(page 1, lines 20-22). Such output ports of typical computer sound cards are also noted by the applicant as being from 4 to 16 ohms (page 4, lines 9-11). These ports are described as capable of connecting with a mini-headphone jack (page 1, lines 26-27). The applicant also discloses that cables are known in the art that connect such mini headphone jacks with a pair of RCA couplings, wherein the RCA couplings may be connected to an auxiliary input port of a home stereo (page 1, lines 26-29). The input impedance for a conventional home stereo is disclosed by the applicant as known in the art to be on the order of 20 to 50 kilo-ohms (page 4, lines 7-9). The disclosed audio output ports of a computer, taught by the applicant as having an impedance of 8 or 4-16 ohms, reads on "an audio output port of a personal computer". The disclosed auxiliary input ports of a stereo system, taught by the applicant as having an impedance of 20 to 50 kilo-ohms, reads on "a first and second audio input port of a home stereo system" that include "a substantially higher input impedance than an output impedance of said audio output port". The applicant teaches though that the use of such known connection cables causes problems due to the inappropriate voltage level of the sound card of the computer audio output port (page 2, lines 1-2).

Specifically, the applicant's admitted prior art does not specify:

- a first impedance transformer disposed within said housing for improving an impedance match between said audio output port and said first audio input port

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- a second impedance transformer disposed within said housing for improving an impedance match between said audio output port and said second audio input port

O'Sullivan discloses a portable hybrid communication system for interconnecting a number of devices. Figure 4 illustrates a general embodiment of such an interconnection system. As can be seen, such a device is able to connect to both a computer (90) and a number of input and output devices, including optional speakers (105) (col. 8, lines 63-67; col. 9, lines 16-19; col. 15, lines 28-32; col. 16, lines 60-64). As part of the connection for each of these devices, O'Sullivan discloses impedance matching circuits (col. 9, lines 26-29). These impedance matching circuits, examples of which are shown in Figure 5, ensure that the appropriate input and output signal levels are received by each unit (col. 9, lines 37-39). Impedance matching is disclosed for inputs to the control unit (68) as well as outputs of the control unit (68), for devices such as the microphone (103) and the speakers (105) (col. 10, lines 4-8 and 12-16).

O'Sullivan also teaches that the selected impedance level may be chosen to implement the interconnection of terminal devices (col. 9, lines 65-68). The shown components for impedance matching, in the standard interpretation of the given claim language as well as the dual output terminals disclosed in the applicant's admitted prior art, read on a "first impedance transformer" and a "second impedance transformer".

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To one of ordinary skill in the art at the time the invention was made, it would have been obvious to include the impedance matching elements of O'Sullivan in the computer and home stereo connection system of the applicant's admitted prior art. The motivation behind such a modification would have been that such impedance matching elements would have enabled the home stereo to receive an input signal with an impedance and signal level appropriate to the home stereo input line, allowing for standard operation of the home stereo with the input signal from the computer audio output port.

However, as can be seen in Figure 5, the impedance transforming circuits of O'Sullivan involve operational amplifiers. Accordingly, the applicant's admitted prior art in view of O'Sullivan does not specify:

- impedance transformers with low impedance windings and high impedance windings

However, several different types of impedance matching circuits are well known in the art and are recognized as equivalents for the transformation of the impedance and signal level of an input signal. Palmieri discloses a broadcast system for a facility for remotely delivering an audio and video signal. The transmission and signal recovery circuits for the audio part of the broadcast signal are shown in Figure 2. As can be seen, such a system includes an audio input and a plurality of audio outputs. Each audio output, or monitor (12A-12N) includes a transformer (80) with a first winding (82) and a second winding (86), wherein the first winding (82) is connected to

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the audio input signal and the second winding (86) is connected to the audio output (col. 4, lines 40-46). The properties of such transformers are well known in the art, including the concept that the number of windings in each coil (82,86) are involved with the inductive transformation of an applied signal to an output second signal. In view of the impedances and signal path given by the applicant's admitted prior art as well as the impedance matching disclosed by O'Sullivan, this first winding (82) reads on "electrically interconnecting said audio port and corresponding low impedance windings of said first and second impedance transformers". The second windings (86) in view of the applicant's admitted prior art and the teachings of O'Sullivan, read on "electrical connections between corresponding high impedance windings of said first and second impedance transformers and the first and second audio input ports of said home stereo system".

To one of ordinary skill in the art at the time the invention was made, it would have been obvious to utilize the winding based transformers of Palmieri for the impedance transformers of the system of the applicant's admitted prior art in view of O'Sullivan. Such a modification would have been obvious to one of ordinary skill in the art at the time of the invention because of their being recognized as functional equivalents in the art. The motivation for using windings for the signal transformer would have also been the passive nature of the windings, which would have required few connections and

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potentially consumed less power than the operational amplifier implementation, which would have required power supply connections.

However, the applicant's admitted prior art in view of O'Sullivan and Palmieri does not specify:

- a housing
- a multiple conductor elongated cable having a first coupling device at one end thereof and a second coupling device at another end thereof
- third and fourth coupling devices mounted on said housing
- that the third and fourth coupling devices are dimensioned and arranged to accommodate electrical connections between the transformers and the first and second audio input ports of said home stereo system

Wu discloses an electric adapter for connecting various sources and outputs of audio and video signals. The multimedia in the system of Wu is received over a transmission line, and can be used for functions including video conferencing and remote teaching (col. 2, lines 11-19). The internal components of such a system are shown in Figure 2. The multimedia input signal is received through a module plug, which is taught as a RJ45 connector (col. 1, lines 63-66). The input cable contains a plurality of conductors (311) welded to a circuit board (2), upon which the audio signal connectors (4) are also connected (col. 1, lines 63-67 and col. 2, lines 1-10). The circuit board (2) and the respective connections (311,22,23) to the external connectors (32,4) are enclosed inside two shells (101,102) of a casing

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(2). This casing reads on "a housing". The signal line (31) with conductors (311) reads on "a multiple conductor elongated cable". The module jack (32) reads on "a first coupling device". The openings (21) on the circuit board (2) for the connectors (311) read on "a second coupling device at another end thereof". The audio connectors (4) read on "third and fourth coupling devices mounted on said housing" and these coupling devices being "dimensioned and arranged to accommodate electrical connections". When taken in view of the impedance matching circuits of O'Sullivan and Palmieri, these connectors (4) also read on "between corresponding high impedance windings of said first and second impedance transformers and the first and second audio input ports of said home stereo system".

To one of ordinary skill in the art at the time of the invention, it would have been obvious to incorporate the housing and signal transmission scheme of Wu to house the impedance matching circuitry and receive and input signal in the system of the applicant's admitted prior art in view of O'Sullivan, and Palmieri. The motivation behind such a modification would have been the housing would have directly enabled the home stereo to interface a remote signal transmission line. Palmieri discloses that the transformer windings are involved with an audio transmission line, and Wu discloses the use of a transmission line installed as a standard in buildings.

However, the applicant's admitted prior art in view of O'Sullivan, Palmieri, and Wu does not specify:

- a first coupling device for interconnecting an audio

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output port of a personal computer with the impedance matching transformer discussed above

Adachi discloses a connector device for interconnecting a mini plug jack with a modular plug. The device comprises a male input mini plug (3) that connects through a conversion circuit (40) to a male modular plug (4) to a female-female modular plug adaptor (31,32) output (paras 0010,0011,0016). The mini plug (3) is a traditional three-line connector (para. 0010). Figure 10 illustrates one embodiment of the device wherein the male input mini plug (3) is used with a female output modular plug (32) (para. 0023). In view of the input port of the device of particularly Wu, this connection device reads on "a first coupling device at one end thereof" being "dimensioned and arranged to establish respective electric signal paths through said cable by electrically interconnecting said audio output port". The collective cited teachings read on "An interface system for interconnecting an audio output port of a personal computer to a first and second audio input ports of a home stereo".

To one of ordinary skill in the art at the time of the invention, it would have been obvious to utilize the connector of Adachi to connect the modular plug based input of the system of the applicant's admitted prior art in view of O'Sullivan, Palmierei, and Wu to the output of a computer sound card. The motivation behind such a modification would have been that such a connector would have enabled a standard, three plug miniature jack to provide the input audio signal to an audio transmission system. Such a connector or adapter

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would have enabled a plurality of devices with such a port, including a computer, to provide this input. Such a connector would have also provided the advantages of a recoiling connection wire. Wu discloses that multimedia is transmitted over signal lines and computers are well known in the art for the storage, creation, and viewing or hearing of multimedia; the adaptor of Adachi would have enabled the multimedia of a computer to be transmitted through one of the standard output ports of the computer.

Regarding **Claim 2**, the applicant's admitted prior art discloses that cables known in the prior art include a miniature stereo plug on one end, and the adaptor of Adachi includes a mini plug (3) on one end (page 1, lines 26-29 and para. 0010). Collectively, these teachings read on "first coupling device comprises a standard male miniature speaker connector".

Regarding **Claim 3**, Adachi discloses the use of a modular plug (3) and a modular connection cable (6) (para. 0012). The teachings of Wu discloses an RJ45 signal line, but the device of Wu includes an S-Video output (5) along with the audio ports (4), which requires additional input signals compared to those needed only for the audio signals (col. 1, lines 55-63). The cable disclosed in the applicant's admitted prior art only involves the transmission of audio signals. In terms of generally being able to transmit a signal, the system of O'Sullivan involves an RJ-11 line which is a four wire connector (col.

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6, lines 16-18). The four-conductor RJ-11 signal line is substantially well known in the art, and would have been recognized by one of ordinary skill in the art as equivalent to the transmission lines used in the teachings of Wu and Adachi. Collectively, these teachings, particularly those of Adachi read on said elongated cable comprises a section of low voltage, four conductor telephone cable". Adachi discloses a series of a male connector (4) a female-female connector (31,32) and a male-male connection wire (8,6,7) (Figures 2,3), wherein each of these connector is of the modular plug type. One end (7) of this male-male wire (8,6,7), in view of the above discussion of the RJ-11 plug type, reads on "said second coupling device is a male RJ-11-type telephone connector". The other plug (8) on this wire read on "the first coupling device further includes a male RJ-11type telephone connector". The female receptacle (32) associated with this plug (8) reads on "a mating assembly having a female RJ11 jack". The mini plug (3) reads on "a male miniature speaker jack" (para. 0010). Mini plugs include three connection lines (para. 0010 of Adachi). The transmission of this signal through the transmission line for the system of Wu would have inherently also required the use of three conductor lines. Cables of the type of the applicant's admitted prior art also well known in the art to include three lines across the length of the cable. The collective teachings of the references in view of the three wires of a stereo mini plug and a multi-line signal transmission cable reads on "being operative to establish respective electrical paths between said audio output port

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and at least three conductors of said four conductors of said four conductor telephone cable".

Regarding **Claim 4**, please refer to the above discussion regarding the similar limitations in Claim 3.

Regarding **Claim 5**, the applicant's admitted prior art discloses standard RCA connectors, and Figure 1 of Wu appears to illustrate standard female RCA connectors. These teachings read on "third and fourth coupling devices are standard RCA female connectors". The applicant's admitted prior art also discloses that the auxiliary inputs of a home stereo system have a high impedance. In view of the impedance matching teachings of O'Sullivan, the connectors of Wu and their welding to the circuit board read on "each electrically coupled to a high impedance winding of a corresponding one of said first and second impedance transformers".

Regarding **Claim 6**, the applicant discloses that the output of a computer sound card has an impedance of 4-16 ohms (page 4, lines 9-11). The applicant also discloses that auxiliary ports of home stereo systems have impedances from 20 to 50 kilo-ohms (page 4, lines 7-9). The ratios between these two sets of numbers range from 1:1250 to 1:12500. As detailed above, O'Sullivan discloses the concept of matching impedances between devices. The lower end of the ratios of impedances disclosed by the applicant reads on "an impedance winding

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ratio between said high impedance winding and said low impedance winding".

Regarding **Claim 7**, RJ-45 type and RJ-11 type signal lines are well known in the art to have a low impedance. To one of ordinary skill in the art at the time of the invention was made, it would have been obvious to make the impedance of such conductors to be "between 4 and 16 ohms" because this is disclosed by the applicant as the typical impedance of a computer audio output port and, as is taught by O'Sullivan, the connections between devices desirably have matched impedances. To not have an impedance in this range would have required an additional set of impedance matching circuits to match the impedances between the audio output port and the conductors, based on the teachings of O'Sullivan. Low impedance transmission lines are also well known in the art to be desirable because low impedances consume minimal power and minimally decrease signal level across the transmission line.

Regarding **Claim 8**, please refer to the above discussion and the functions performed by the components in Claims 1, 3, and 7.

Regarding **Claim 9**, please refer to the above discussion and the functions performed by the components in Claim 3.

Regarding **Claim 10**, the audio output port of the device of Wu and

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the input RCA auxiliary ports of the applicant's admitted prior art would have inherently required an RCA connector cable, which reads on "an RCA male connector of a first end of a second cable to a high impedance winding" and "a RCA male connector of a second end of the second cable to said at least one input audio port".

Regarding **Claim 11**, RJ45 cables are well known in the art to be of considerable lengths, as is evidenced by the teachings of Wu for their use of in-wall building connectors (col. 1, lines 12-18). Wu also discloses that the signal line (31) may be made to have desired length. This reads on "the elongated cable supplied during said supplying step is at least 25 feet long".

Regarding **Claim 12**, please refer to the above discussion regarding the parallel limitations of Claims 3 and 7, noting that the applicant also discloses that the typical output port of a personal computer has an impedance of 8 ohms (page 1, lines 20-22).

Regarding **Claim 13**, please refer to the above discussion regarding the parallel limitation of Claim 3.

Regarding **Claim 14**, please refer to the above discussion regarding the parallel limitations of Claims 1, 3, and 7.

Regarding **Claim 15**, please refer to the above discussion

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regarding the parallel limitations of Claim 1.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

DeLaderantaye III (USPN 6350150) discloses an adaptor for a home stereo system and a personal computer, similar to that cited as well known in the art by the applicant.

Dos Passos (US 20020164015) teaches an interface device for connecting a phone line and a personal computer.

Migler (USPN 4643682) discloses an interface device for interconnecting a stereo, computer, and telephone line.

Lemaire et al (USPN 5444768) discloses a system with a telephone input and a stereo headset output.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Graham whose telephone number is 703-308-6729. The examiner can normally be reached on Monday-Friday, 8:30 AM to 5:00 PM (EST).

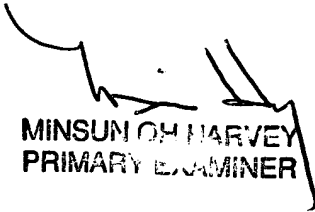
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Isen can be reached on (703)305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AG
Andrew Graham
Examiner
A.U. 2644

ag
May 17, 2004


MINSUN OH HARVEY
PRIMARY EXAMINER